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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/060,249 | 02/01/2002 | Pascal Chevalier | 219031US2 | 8878 |
| 22850 | 7590 | 12/04/2003 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. | | | BUI, BRYAN | |
| 1940 DUKE STREET | | | ART UNIT | |
| ALEXANDRIA, VA 22314 | | | PAPER NUMBER | |
| | | | 2863 | |

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,249

Applicant(s)

CHEVALIER ET AL.

Examiner

Bryan Bui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 2-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *references in record*.

DETAILED ACTION

1. Applicants' papers filed on 10/7/2003 have been received and entered. Claims 1-9 have been amended. Claims 1-9 are pending in the application.
2. Applicants' remarks have been considered but it is not persuasive.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 7-9 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Pipon et al. (U.S. Patent No. 6,239,746)/ or under 35 U. S. C 102(a/b) as being anticipated by Mdyastha et al "delay and DOA estimation in CDMA communication systems", page 350.

Pippon et al teach all features of the claim invention, comprising: correlation a signal received by the sensor/(sensors) with known/(reference/learning/train) signal and sampling the signal at a sampling period and selecting the number of samples per concatenation (e.g. column 4, line 34 to column 5, line 16) and determining tone parameter of the propagation channel which enable the most efficient reconstruction of the signal received by using a maximum likelihood method (e.g. column 1, lines 30-67). It is noted that a maximum likelihood method is one of the types of high-resolution methods make it possible to perform direction finding in the presence of several sources is well-known in the art as specified in column 1, lines 30-67 above.

Madyastha et al teach all features of the claim invention, comprising: correlation a signal received by the sensor/(sensors) with known/(reference/learning/train) signal and sampling the signal at a sampling period and selecting the number of samples per concatenation and determining tone parameter of the propagation channel which enable the most efficient reconstruction of the signal received by using a maximum likelihood method (**page 350, right column, from a third paragraph to left column, first paragraph**). It is noted that the number of inputs and outputs are depended on the numbers of path channel that providing in the sensed signals is well known in the art.

Allowable Subject Matter

3. Claims 2-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments filed 10/7/2003 have been fully considered but they are not persuasive. Applicants' argument that the references of the prior art rejection do not teach the steps recited in the amended claims 1 and 8 because the prior art based on the sampling base band at a rate and filtering the sampled using a low-pass filter process (Pipon's reference); and Mdyastha' reference does not teach the steps recited in the amended claims 1 and 8 because the prior art based on the CDMA technical field which the stream of data is modulated using a spreading sequence of length N ; teach a process that presumes a single path channel and obtain the observation vector by sampling the outputs of chip matched filters, at each of the M sensor, at the rate $N \times 1$ to produce r . In examiner's position, the sampling the signals at a rate T_e and the sampling should be provided in the current application, even they did not show in the claims invention (In the current specification of the application, page 15, lines 11-14, 32-33 indicates this concept as corresponding to the teachings of the prior art (Pipon) using the type of low pass filter. In Mdyastha' reference, CDMA is a technique used in radio communication system which indicates the observation vector across the array at the i^{th} time index which obtained by sampling the outputs of chip matched filters at each of the M sensors at the chip rate to collect N successive time samples to form an $N \times 1$ vector at each sensor per concatenated and determining the parameter (delay, DOA, amplitude) by likelihood method are clearly corresponding to the features of the claims

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invention as discloses in the details of the specification of the current application, page 9, line 15 to page 11, line 7).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

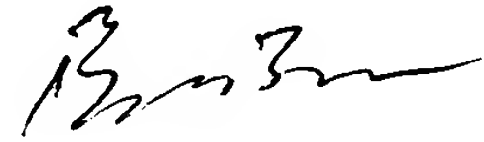
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 703-305-4490. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 and 703-308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



BRYAN BUI
PRIMARY EXAMINER

BB

12/3/2003